THE MOTOR AGE

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AN UNFAILING SOURCE OF INTEREST

AUTOMOBILE SECTION COMMANDED MORE ATTENTION AND POPULAR INTEREST THAN DID THE CYCLE EXHIBITS—PUBLIC'S KNOWLEDGE AND INQUIRIES RUDIMENTARY BUT PRACTICAL—EXHIBITORS PLIED WITH INQUIRY—MANY SALES EFFECTED

New York, Jan. 29.—It was really wonderful the amount of attention the automobile portion of the "Cycle and Automobile Show" attracted. It is safe to say that there were more questions asked of the even dozen of motor-vehicle exhibitors than from the many scores of those who showed bicycles and accessories and that the even thirty horseless vehicles attracted more attention than all the rest of the show. Viewing the exhibition from the galleries, the various motor-vehicle stands could be located from the black throng of humanity around each.

Interest Greater Than Space

The visitors were not content to stand outside the booths and ask questions but insisted on crowding through the gates and climbing over the railings and plying the tired exhibitors with scores of questions which served to show the interest in the motor-vehicle problem and, at the same time, their almost universal lack of any understanding of the real nature of the vehicles themselves. The sum total of the knowledge which the vast majority of questioners seemed to possess was that steam, gasoline and electricity were the three sources of motive power.

The ignorance of the public can not be better illustrated than by an example: One of the best known makers of electric vehicles engaged, for the week of the show, a salesman who had absolutely no knowledge of the vehicles which he

was expected to sell—nor any knowledge of any motor-vehicle. Before the show was two days old he had sold one vehicle for $1,200 and one for $1,500. Any good salesman possessed of a little versatility could have done the same.

Motive Power the First Question

About the first question that possible purchasers asked was as to the motive power. Being told that it was electricity, steam, or gasoline, as the case might be, the questioner would be satisfied. The next question would be as to the weight. If the vehicle were one of the heavy electrics, as most of them were, he would ask a question or two as to the reason for its being so heavy, but was easily satisfied with the reply that the weight was little objection. Then he would want to see the operation of the levers and controllers. Those who asked further questions were the exception. They did not even question as to whether the tires were cushion or pneumatic; displayed no curiosity about running gear, differentials, motors or accumulators. The answers given to questions concerning one make of electric would, in nine cases out of ten, have applied equally well to any of the other electrics. It was not for want of curiosity that the questions were so few but on account of lack of knowledge of what to ask. Exhibitors were too question-tired to vouchsafe any great amount of additional information to any except those who displayed a marked tendency to buy. The number of orders booked by the exhibitors, however, was so large as to preclude the idea that all the questioners were actuated by mere curiosity.

Present Buyers Are of Wealthy Class

It is safe to say that some of those who have paid deposits will find it necessary to undergo a course of instruction if they expect to get any use of their vehicles when they are delivered.

Those who are placing orders now are, for the most part, of the moneyed class, and order simply because the automobile appeals to their fancies and is the mode.

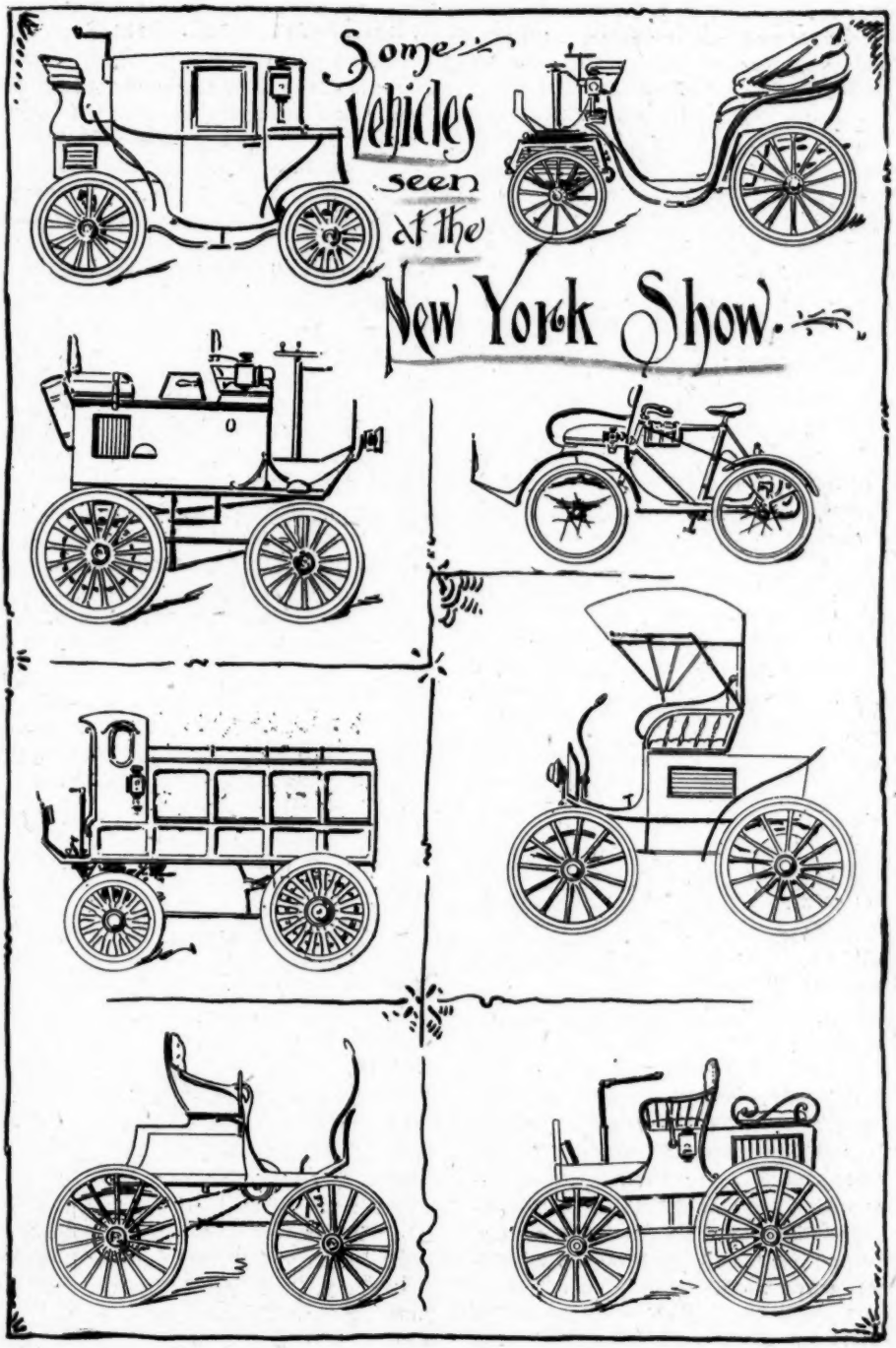
There is another class, composed of those who are giving more attention to the real merits and lack of merits of the vehicles they examine, with a determination to buy in the not far distant future, but they are of the class to whom the cost of an automobile is a feature that is worthy of consideration.

All Vehicles on Show Are Sold

One of the most encouraging indications of the future of the motor-vehicle business is the fact that long before the close of the show, all vehicles on exhibition were sold to customers in New York, not to mention the scores of orders that were taken for future deliveries. Had Madison Square Garden been filled with nothing but automobiles, it is safe to say that the same result—the selling of every vehicle shown—would have been accomplished. There are thousands of eager purchasers who are ready to pay almost any price and to take almost any style of vehicle that they can get immediately. The desire to purchase was augmented during the show week by the delightful weather with which the visitors were treated. Bright sunshine and a temperature that would have done credit to October were enough to tempt any owner of a horseless carriage to make use of it and increased the longing for possession.

Prospect of Exclusive Auto-Show

The eager interest displayed in the automobile exhibits was enough to crystallize the half formed plans for an exclusive automobile show later in the year. The announcement was given out that this show would be given in October and would be made an annual fixture. On the other hand, the constantly recurring rumor that Madison Square Garden would be torn down found new life—and was circulated on seemingly good authority. If, however, the Garden should be torn down, it is safe to say that there will be found another place for the exhibition. Indeed other locations are already under discussion by ambitious promoters who would ask nothing better than to see the Garden torn down.


Some
Vehicles
seen
at the
New York Show.

MOTOR MISCELLANY GLEANED AT THE SHOW

J. Overton Payne, the multi-millionaire, purchased a Waverly automobile from Billie Young for $1,500 cash. This was the third sale for the old time cycle trainer during the week.

A motor triplet is to be used for pacing purposes on an ice track within a short time. John Lawson has arranged to go for a fifty mile record on skates so paced at Cohoes, N. Y., in February.

Major Taylor may enter automobile racing. The colored lad had several conversations on the subject during the show. He will not race on Sunday in France and being closed out of cycle racing in America, finds the new field very attractive.

J. A. Blaurock, the popular New York dealer in road wagons, recognizes the coming of the automobile into popular favor. In February Mr. Blaurock will make a trip to Europe to look over the field and next season he will open a new store in New York for the sale of a complete line of autos of all styles and descriptions.

Exhibitors at the show were driven to death with applications for agencies. No maker could be found who was in position to fill any number of orders. The chief anxiety is seemingly to catch up with the orders of the present and a number of clever advertising schemes presented to makers received scant attention.

Charles Overman is about to enter the motor-vehicle field. He sees a very bright future in the automobile world and says that he will shortly announce his connection with a prominent builder. Mr. Overman has been looking around for some time and has been in no hurry to tie himself down to work.

Charles Jarrott, the great English motor racing champion, purchased his first motor from Henri Fournier. The famous pair met at the show and compared notes. They will meet again in competition in the Paris-Bordeaux race of next summer. Jarrott issued a challenge before coming to this country for $5,000 a side and thought that he would meet amateur motor cyclists while here. He found to his surprise that all the enthusiasts in America were professionals and said that he would try to get on a race with C. K. Wridgway, the Englishman, who has just arrived here. Henri Fournier expressed an anxiety to meet Mr. Jarrott in a contest for $5,000 a side, either on the road or against time. Fournier will be backed by the Waltham Mfg. Co. Jarrott is backed by John Henry Lawson, the reputed inventor of the safety bicycle, who brought him to this country.

The absence from the cycle show of the motor cycles so generally used on the tracks in pacing races and time trials last season was generally commented upon. There was not an exhibit of motor cycles in the building. The huge pacing machine of Major Taylor in the Stearns bicycle exhibit attracted a great amount of attention. This machine weighs 345 pounds and has a record on a circular track of 1:04.

Joe Grimes is heavy and an automobile strikes his fancy. Grimes has been a successful cycle salesman and has traveled the world over selling bicycles. While in Berlin last summer he heard of the race from Munich to Berlin and went down to the starting point. While there he found one motor vehicle which a firm was about to ship back because it had no operator. Grimes was taught to run it and volunteered to take it over the 375-mile course. When he started there was considerable amusement about it but after the twenty-three competitors hit the road, Grimes became a formidable competitor. His weight carried him down hill naturally and forced him part way up the next hill when he threw on the other gear and often-

times beat out experienced but lighter men in that way. He was checked by a railroad train but finished seventh but twenty minutes back of the winner whose time was seventeen hours and forty minutes, while Grimes did it in eighteen hours even. That gave the giant the thought and he is today attempting to arrange for a record breaking trip from New York to San Francisco. Grimes is a clever engineer, that being his original profession. He believes that looking after the details of the machine would be rather easy.

He, however, met with no encouragement from the makers of electrically propelled vehicles when he broached the subject of the transcontinental trip. When approached, Mr. Dow of the Indiana Bicycle Co., said: "The long distance trials will necessarily have to be confined for some time to the gasoline and steam style of carriages. The lack of supply stations brings this about. In time we shall have these stations throughout the country but for the present those who use the electric carriage must confine themselves to a limited space." Grimes has several other makers interested and believes that he will arrange for the trip, if not for the early part of the year, for the closing months at least.

Fred Titus is working in the electrical department of the Electric Supply Co. of New York. He wanted to be a salesman but decided to start at the bottom first and work up the line. He displays better sense than most once popular cycling racing men.

W. D. Gash of the Waltham Mfg. Co. believes that the coming season will be devoted to short races and time trials for the shorter distances rather than to transcontinental trips and the more expensive forms of motor vehicle advertising.

Oscar Hedstrom, the old time cycle racing man, is designing a motor to be applied to the safety bicycle of today. Hedstrom believes that he will turn out a motor which will revolutionize cycling. He proposes to place the motor on one side of the rear wheel with a fly wheel on the other side. The gasoline tank is to be under the saddle. Hedstrom says he has a liberal offer from a large builder of motors to enter the experimental room of the factory. John H. Lawson of England is said to be working on a machine of the same type.

Of the half score cycle tracks which will probably be constructed during the coming season, all are especially planned to accommodate motor cycles at the highest possible speed. The banks will be built upon an angle of fifty-five degrees at least.

L. D. Munger has made his fortune if all reports be true. According to hearsay, Munger received for his motor vehicle tire, $288,000 in stock in the concern organized by the Flint interests and in addition to this an annual salary to run for five years of $15,000 with $100 a week expenses and 7½ per cent on the gross sales. Munger still owns the foreign patents on his automobile tire and is said to have been offered $50,000 for a one-quarter interest in the French rights.

Harry Stevens, the Madison Square Garden caterer, could not withstand the pressure of the show of automobiles. Mr. Stevens finally came forth from his hash producing den and purchased what he describes as a "b-e-a-u-tiful machine." "No more horses for me," said Mr. Stevens.

Henri Fournier will sail for France this month with six motor vehicles. Fournier will enter for all the races of the coming season in Europe using the machines of the Waltham company.

Among the exhibitors at the show whose vehicles arrived too late to chronicle in last week's Motor Age, was the Elgin Automobile Co., of Chicago. The company's first vehicle was a gasoline runabout for which a number of orders were taken during the week. The taking of orders for this vehicle was rendered particularly easy for the reason that the company was in position to make deliveries within ten days, whereas other exhibitors could not for weeks, and, in

some cases, months. Later in the week the Elgin company received its two-seated electric vehicle, also of the runabout type, which was by all odds the smallest and most compact electric vehicle at the show.

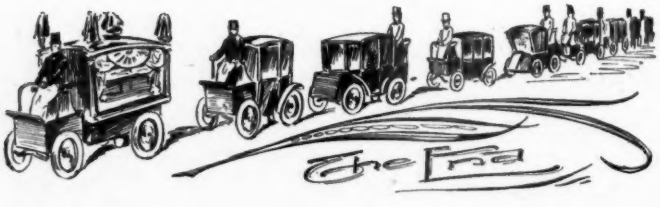
Among the late arrivals at the show was the Regas Vehicle Co., central New York agents for the Woods Motor Vehicle Co. of Chicago, with a runabout made by the latter company.

The Badger Brass Mfg. Co. of Kenosha, Wis., is making a strong bid for the motor vehicle trade and exhibited its well known Solar lamps in sizes and designs suitable for automobiles. It has already made arrangements with several prominent makers of motor-vehicles for the use of the Solar lamps.

The National Chronograph Club will be one of the many developments of the introduction of automobile racing and time trials. Some years ago J. E. Savelle of Boston formed a Chronograph Club but this was purely local. In Boston it was standard and the timing of the members, single or collectively, was considered final. Mr. Savelle was at the show and in a conversation had the question of a national organization broached to him. He grasped the subject quickly and said that he would be glad to hear from all experienced timers, care of box 3748 Boston, with the idea of forming such an organization for timing all sorts of races and trials during the coming year. The Chronograph Club has a regular list of rates for such work and this is willingly paid by promotors of road and track races as their timing adds authenticity to every thing.

In a general conversation at the show M. L. Bridgman said concerning dash boards on motor-vehicles: "When the first railroad train appeared the coaches were upon the plan of the old time stage coach and not at all like the present magnificent traveling cars. In future the motor-vehicle, which today occupies a position midway between the cycle trade and the carriage trade, will have its own distinctive form and will be no more like the carriage of today in appearance than is the present railroad carriage like the first of their kind turned out. The dashboard is unnecessary.

Motor-vehicle exhibits of the future will be on a grand scale providing some of the many plans spoken of during the show come to a head. Dr. Wilson, the director general of the Philadelphia Export Exposition, was at the show on Saturday and was very much interested in the show itself and in the automobiles in particular.



LACK OF PROBITY BRINGS DISASTER

TREASURER OF THE ALTHAM INTERNATIONAL MOTOR CO. ARRESTED—BOOKS OF THE CONCERN IN UNINTELLIGIBLE CONDITION—STOCKHOLDERS DEFRAUDED—FINAL OUTCOME MAY NOT BE DETRIMENTAL TO THE CONCERN

Boston, Jan. 27.—The troubles of the Altham International Motor Co. came to a head this week when Treasurer William W. Coe was arrested at White Plains, N. Y., on the specific charge of the larceny of $5,000 from George Francis of this city, proprietor of the Boylston Cafe and a stockholder in the company.

The circumstances leading up to the arrest consisted of a stockholders' meeting in Portland, Me., an examination of the books, which were found to be in an unintelligible state, and the appointment of a receiver for the company, Charles F. Allen of Haverhill, Mass.

Origin of Company

Coe is well known in Boston as a promoter of eight or ten years' experience. In 1891, while on a steamer bound for Europe, he met Mr. George J. Altham of Fall River, inventor of the Altham gas motor, who was on his way to England to interest capitalists in the motor. Mr. Coe learned all Mr. Altham's plans and so impressed the inventor that he was secured to promote a company.

In the same year a company was formed under Maine laws with a capital of $300,000. Mr. Altham and Mr. Coe held the controlling interest. Three years later permission was given the company to capitalize for $5,000,000 and the name was changed from the Altham Motor Company to the Altham International Motor Company. Offices were opened and things went swimmingly for a time.

Deserted the Offices

Of late Mr. Coe has been absent from the offices, which have been locked for days at a time. The stockholders could get no satisfaction and Mr. Altham's attention was drawn to the state of affairs. He joined issue with the stockholders and a board of directors was elected. The directors examined Mr. Coe's books and immediately decided to ask for a receiver.

A year ago President Altham and Treasurer Coe went to England to form an English company. On his return Coe told the stockholders that the company had been launched but that the Transvaal war had held it up temporarily. Mr. Francis, who caused Coe's arrest, met Coe socially and was induced to invest $3,000 in the stock. Last October, soon after Coe's return from England, he informed Mr. Francis, so the latter states, that the patents had been sold to an English company for $100,000. He asked a loan from Mr. Francis of $10,000 to buy up a certain block of stock. Then, as Mr. Altham was an inventor and not a business man, and had, it was urged, retarded the development of the company, Mr. Coe and his friends, including Mr. Francis, could throw Mr. Altham overboard and boom the stock.

Under False Pretenses

Finally Mr. Francis advanced $5,000 for this purpose. Mr. Coe informed him, he states, that the real estate of the company in Fall River was unencumbered and was valued at between $40,000 and $50,000. He gave Mr. Francis personal assurance that his $5,000 would be paid first of all from the English remittance as soon as received. In addition, he offered Mr. Francis 1,000 shares of the Altham stock as collateral security and 100 shares outright as a bonus.

Mr. Coe then gave Mr. Francis a ninety-day note of the company, signed by himself as treasurer, the 1,000 shares collateral and the 100 shares bonus.

Since then Mr. Francis has found that the Fall River property does not stand in the name of the company but in the names of Mr. Altham and Mrs. Annie Coe, Coe's wife, and that it is encumbered with a small mortgage, held by a Fall River bank.

Private Use of Funds

He also alleges that he has learned that the money he advanced Coe was not used

for the purposes represented but was invested by Coe for his personal account in the Gilsonite Asphalt Company of Utah, without the knowledge or consent of Mr. Francis.

The ninety-day note went to protest. Mr. Francis could get no satisfaction. So he consulted Chief Watts of the police department. Coe was located in White Plains and arrested. He at once telegraphed that a certain well-known Boston lawyer would be responsible for his appearance, but he was not released. Requisition papers were secured and he was brought to Boston.

Confidence of the Company

The stockholders of the Altham International Motor Co. are scattered all over New England, but the majority of the smaller holdings are in the hands of Eastern Massachusetts people. They feel great confidence in Mr. Altham and the future of the company and believe their troubles are only temporary. The receiver has brought about a compromise whereby Mr. and Mrs. Coe shall release and discharge the company and its receiver from all claims held by the former. Mrs. Coe appears on the books as a creditor of the company for $23,000 loaned it by her.

The couple are also to assign and deliver to the receiver of the company all certificates of stock and all interest in any pledged stock held by them. It appears that they own 12,500 shares, the par value of which is $100. There is possibly $30,000 due the company from Mr. Coe.

The offices in the Worthington building have been vacated by the Altham company and reoccupied by the American Roller Bearing Co pany.

The directors of the company are hopeful and expect to put the company on a producing basis as soon as its affairs have been settled.

RECENT ANTIPODEAN PRODUCTION

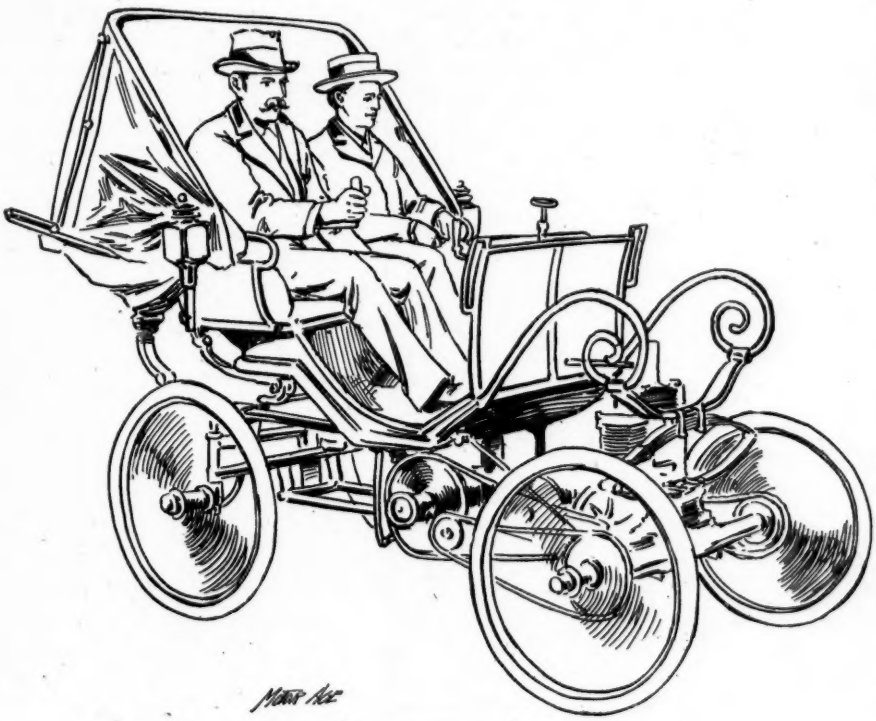
Plain evidence that the motor vehicle industry is spreading beyond the limits of European and American activity, even in the matter of production, is the recently constructed doctor's phaeton shown in the accompanying illustration, which was built in Australia.

The carriage is rather distinctive in appearance on account of its commodious body hung high on small, light wheels. There is no attempt to conceal the driving elements, which consist of a single-cylinder gasoline motor with chain driving gear. The weight of the motor is about 150 pounds. The stroke is four and a half inches and its ignition is of the primary electric sort which may be advanced or retarded and whose current is supplied from dry battery cells. The oil feed is automatic.

The driving gear consists of sprocket on the motor axle. This transmits power by chain to large sprocket on countershaft. This countershaft carries a double friction clutch and two chains (high and low speed) to differential shaft; then chain drive from differential to front wheels. Steering is by a lever rising from side of car and operates through the rear wheels. The speed change clutch is worked by handle lever on pillar rising from footboard. Advance ignition lever is attached to clutch pillar just below clutch lever, and in front of left hand. .The oil tank is on dashboard. Starting lever is seen close down on footboard. To start the motor (done from the seat) the oil is turned on at tank and starting lever raised two or three times. The motor starts immediately. The clutch lever is now (with left hand) pressed to right, and low speed clutches brought into engagement gently and car starts. If high speed is required the clutch lever is pressed to the left. Any further acceleration or retardation of speed is obtained by advancing or retarding ignition.

The motor responds at once to the ignition, and with the present gear fur-

nishes a speed on level of about fourteen miles per hour. The car has taken all hills so far, and has a very strong pull when hitched to a Salter balance. There is no vibration when going, it is said; when standing a glass of water can be placed on oil tank, and only show a tremor on surface. But as the motor starts quite readily, it is advisable to stop the motor when car is stationary.



DOCTOR'S PHAETON FOR TWO. RECENTLY BUILT IN AUSTRALIA.

"AUTOGO" TO A WEDDING IN BOSTON

Boston, Jan. 27.—Boston has had its first automobile wedding. All the guests that attended the wedding of Miss Mary Walsh, of Roxbury, to Charles E. O'Connor at the Mission church this week rode to and from the church in electric cabs and runabouts from the New England Electric Vehicle Transportation Co. The groom is connected with the company and, in compliment to him, to say nothing of the retrograde step it would be for the guests to be drawn to the wedding by horses, the company placed the vehicles at his disposal. It was a very picturesque exhibit along the street near the church door and excited a great deal of comment by the passers.

Patronized by Theater Goers

The motor cabs are growing more and more popular as they journey around so easily through the slush of a Boston winter, and, although the equipment of the company does not yet warrant dividends, the point is already in sight where the receipts from the cabs will meet the fixed charges. The method of transportation is so certain, so speedy and so safe that the theater patrons who have

to hire carriages now give the electric cabs the preference. The lines of empty carriages waiting for the last curtain at all the theaters now contain a fair sprinkling of electric cabs, and it is a frequent sight to see a gentleman and lady walk down the line to an electric cab, passing the horse-drawn cabs by. The bright electric side lights of the cabs make them easily distinguishable at night in line, which advertising feature the old-time cabbies never thought of.

Favor Worcester Factory

Within a very short time the Locomobile Company of America, which recently acquired the old Speirs plant at Worcester, will enlarge its sphere of operations in that city.

The company's main shipping is done from the factory at Newton. All the drop forging is done at the Speirs shop. Officers of the company have felt for some time that the capacity of the Worcester shop would not be large enough to meet demands and now have plans maturing for greater facilities at Worcester. The Newton and Westboro shops will be maintained, but more of the work in increasing ratio will be done at Worcester, and it is the intention of the company to open extensive warerooms in that city for exhibition and agency purposes, handling a great deal of the New England business from that center.

A special dispatch to the Motor Age's New England bureau from Bridgeport, Conn., states that the main factory of the Locomobile Company is to be located in that city. Dr. I. deVer Warner, of Warner Bros., corset manufacturers, has chosen a site for the company on Main street, near Seaside Park, containing forty acres, with a large water front. Dr. Warner states that the company will begin work at once upon a factory which will employ 2,000 operatives. The land has already been purchased from the P. T. Barnum, George Mallory and Nathaniel Wheeler estates. The site is close by the tubing factory of the Wilmot & Hobbs Mfg. Co.

Active Experimental Work

The Locomobile people are not alone in thinking Worcester good territory. When he returns from the South in a week or ten days Charles Crompton will begin organizing a company to build steam carriages of his own design. Henry Minter is encouraging the improvement of a motor, the work upon which is being done by students of the Worcester Polytechnic School and A. E. Whitney in the factory of Witherbee, Rugg & Richardson. Ralph L. Morgan is another Worcester experimenter along steam lines, while J. C. Wood has been quietly experimenting along similar lines for three years.

GERMAN FREIGHT TRUCK

The accompanying illustration represents one of the heavy freight trucks or "motorlastwagen" used in Germany and manufactured by the Fahrzeugfabrik Eisenach.

The frame of the truck is constructed entirely of iron and steel and is calculated to withstand any strains that it is possible to put on it. The wheels, spokes and rims, are of wood with steel felloes, made very heavy. These rims have been tested and found to withstand the loads which they have to carry. The hubs are made of a special bronze. The transmission of power is effected without the use of belts or chains, being carried from the differential gear by the usual two-piece shaft which is provided with small pinions which mesh with cogs on the inner periphery of a flange on the rear driving wheels. The truck has four forward speeds and one backward, varying from three to ten miles an hour. Grades of 1.8 per cent can be traversed at maximum

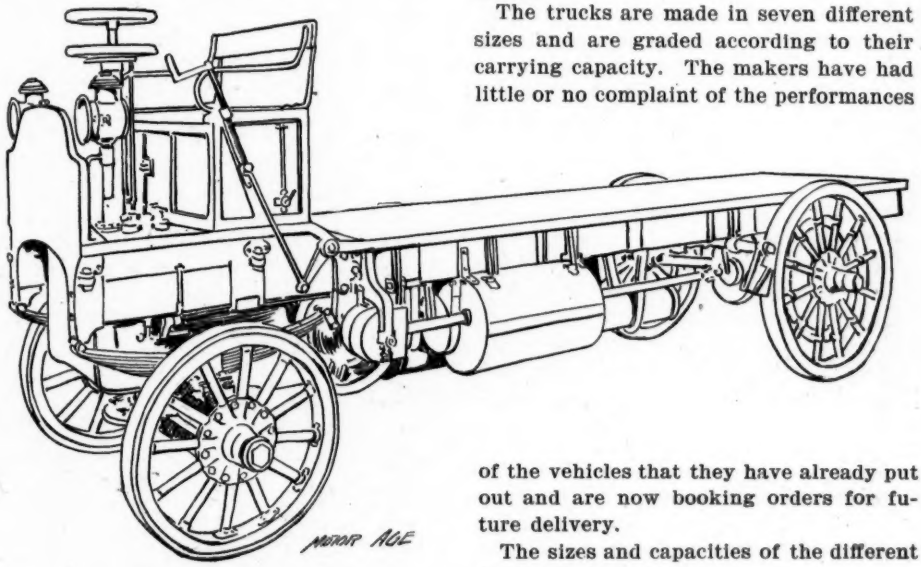
speed with a full load, varying, according to the vehicle, from one and one-half to seven and one-half tons.

The steering wheel is connected by gearing to the rest of the steering apparatus sufficiently to make the directing of the vehicle an easy matter. To stop the car, the motor is disconnected and a hand brake set by a single movement of the hand. In addition to the hand brake there is, working on a band on the hub, a foot brake, actuating heavy shoes on the driving wheel, which are said to be capable of holding the vehicle and full load on any grade which it is possible to ascend.

The motor is of the explosive type, using benzine. It has twin cylinders cooled by water. The ignition is effected by hot tubes. The motors are constructed extra strong and have stood up well under tests. Like other explosive motors the engine is started by hand, disconnected, of course from the transmission gear.

The vehicle carries a supply of hydrocarbon fuel sufficient for ten hours' steady work. The quantity of fuel used varies in the different sizes of trucks from one to one and one-half pints per horse-power-hour. Every precaution has been taken to avoid any possibility of danger.

The trucks are made in seven different sizes and are graded according to their carrying capacity. The makers have had little or no complaint of the performances



of the vehicles that they have already put out and are now booking orders for future delivery.

The sizes and capacities of the different trucks are as follows:

Capacity, tons	1½	2½	3¾	4½	5	6	7½
Motor, horse-power	4 to 6	6 to 8	8 to 10	10 to 12	10 to 12	12 to 14	14 to 16
Weight of car, pounds	3,262	4,612	5,850	6,525	6,975	7,875	9,000
Length of car, feet	14 3-5	17½	18 5-6	19½	19½	21 1-6	21 1-6
Width of car, feet	4½	4 5-6	4 5-6	4 5-6	4 5-6	5 1-5	5 1-5

FIRST LONG DISTANCE CLUB RUN

New York, Jan. 27.—The Automobile Club of America today successfully promoted the first long distance motor vehicle club run ever pulled off in this country. The occasion was the formal opening of the country club house at Kingsland Point, near Tarrytown, the use of which John Brisben Walker has given the club.

The distance of the run for the round trip was fifty-six miles and the start was made from the Waldorf-Astoria at 11:05 o'clock. Ten vehicles containing twenty-two persons participated, as follows: Al-

bert C. Bostwick and C. Jarrott of England, in a gasoline runabout; George T. Chamberlain and Albert E. Strange, in a gasoline phaeton; Dr. E. C. Chamberlain and J. Herbert Carpenter, in a gasoline phaeton; David W. Bishop, Jr., and Baron Hermann of the German embassy at Washington, in a gasoline phaeton; Geo. John Scott and Harry Scott, in a steam runabout; D. H. Morris and Lindsay Flagdam, in a steam runabout; Alexander Fisher and Fred Nagle, in a gasoline runabout; J. Wesley Allison, E. W. Curtis, Jr., Fred T. Crolius, Boston, and J. Richard Carter, in an electric surrey; A. L. Riker and Whitney Lyon, in an electric dos-a-dos; Edward Lyon and Winslow E. Busby, in an electric dos-a-dos.

David W. Bishop, Jr., reached Yonkers five minutes in the van, but in the run to Tarrytown was beaten to the club house by A. C. Bostwick, who arrived at 12:50, the last one in rounding up at 1:15. E. F. Ginot, the noted expert of the Automobile Club of Paris, rode with Mr. Bostwick. Of the first six to reach the club house it was said that five had gasoline motors and one steam.

After luncheon the start for home was made at 3:45. The first vehicle reached the Waldorf-Astoria at 5:45. Vice-President Chamberlain punctured a tire on the run home, but, pushing ahead on the flattened tube, made the distance in the actual riding time of an hour and forty-five minutes. It was mainly up hill going and down hill returning.

In the evening, after dinner, Alexander Fischer made an address on "Gas Engines as Applied to Automobiles," illustrating his points by about fifty lantern slides.

NEW ENGLAND STEAM RUNABOUT.

OFTEN SEEN ON NEW ENGLAND ROADS

The New England Motor Carriage Co.'s steam runabout, an illustration of which is shown herewith, is one of the common sights, spinning over the roads between Boston and Waltham, the factory being in the latter city. This carriage weighs about 600 pounds. It uses gasoline as fuel.

The tanks carry enough water for a level run of twenty-five miles and gasoline for a sixty-mile trip. Superintendent Skerry, who designed the carriage and its machinery, says he has tried to make a "straight" carriage, using no devices that had not proved reliable. The engine is double-cylinder, double-acting, standing vertically, and with a sprocket reduction of two and one-half to one. The cylinders are two and one-half inches by three and one-half inches stroke.

The boiler is of the steel shell, copper watertube type, containing 320 tubes. The water is fed by a pump. Mr. Skerry has given the carriage some severe tests and says it does fifteen miles an hour easily over ordinary country roads.

Steam can be raised to the working pressure, 180 pounds, from cold water in five minutes. At this pressure the engine develops four brake horse power. The fuel feed is controlled by a diaphragm actuating a needle valve. The burner is simple, the vaporization being by the heat of the flame. The engine has a dust-proof casing. The band brake is applied to a drum on the differential gear casing.

A two-seated carriage on similar lines is also built. An addition has just been completed at the factory which doubles its capacity. It is reported that contracts have been signed recently calling for all the carriages the company can turn out.

RIDICULOUS AUTOMOBILE PAPERS

As eager and as hopeful as the victims of the Klondike fever, the horde of rapacious solicitors for the advertising patronage of the makers of motor-vehicles are found everywhere. Imbued with the idea that all makers of vehicles are bound to reap a harvest, they have scented the feast from afar and have determined to get what they characterize as their share of the spoils.

Armed with no weapon save an ability to solicit advertising, these solicitors make life weary for the makers and often receive advertising that they may be induced to leave the maker in peace. Having no idea as to the mechanical requirements of automobiles, and none about the commercial features of the business, they depend on their "gift of gab" which includes all manner of impossible promises and the regulation solicitation of fulsome trade puffs, regardless of the real merits of the vehicle or parts concerning which they purport to give the news—heaven save the mark.

It appears to be the sole aim of the compilers—they merit no better name—of the publications for which these solicitors talk, talk, talk, to see how many columns they can run which can, by any stretch of the intellect, be construed as applicable to the motor-vehicle industry. It takes but a moment's thought on the part of any intelligent man who has any knowledge of the automobile industry, to realize that there is comparatively little that is really worth publishing at the present time.

The little that is of real merit, from a mechanical standpoint or from the standpoint of a careful study of the commercial and economic features of the vehicle of the future, is very often overlooked by the compilers of the motor-vehicle adver-

tising mediums. When what is really good is printed, it is most often printed because it has been found in the scrap piles of literature from which these compilers make up their advertising sheets. It gets in by chance rather than on account of the exercise of any judgment on the part of the compilers. Not infrequently such selections are found in several of the advertising sheets simultaneously, almost invariably showing a total lack of editing. Arguments that are applied to conditions which prevail in England or France or Germany are produced and the American compilers take these arguments and apply them without the least scintilla of reason to totally different conditions on this side of the Atlantic.

The almost total absence of original matter in these advertising sheets, shows the capacity of their alleged editors to handle the subject intelligently. The reading matter in them is composed almost entirely of clippings from foreign class publications, culled with no discrimination, and from clippings from the notoriously inaccurate daily papers of this country. Added to this are the patent office specifications of hair-brained inventors, reproduced almost verbatim, together with the specifications of the really meritorious inventions; equal attention and equal prominence being given to each class, resulted in a potporri of technical terms through which no intelligent reader would attempt to wade and which none without a knowledge of mechanics could derive any sort of information.

The operation of producing the advertising periodicals is completed by the insertion of the too often outrageous claims on the part of the advertiser as to the alleged merits of their products, printed as they are received, without attempt at verification or even a careful scrutiny as to the mechanical possibility of the claims.

This sort of compilation, and the advertising that the hungry solicitors are able to get, comprise the average automobile publication of America today. It would be a sad reflection on the intelligence of the manufacturers that they can be induced to patronize such sheets were it not for the fact that they are so overwhelmed with the multiplicity of details that they have no time to peruse the sheets to which they are induced to pay their money.

It is not lack of intelligence on the part of the automobile makers, however—the automobile makers who are in the business to stay—for, from the very nature of the business, they are intelligent and are compelled to be intelligent or get out. The day will soon come when they will have a little time to inspect the merits of the goods—advertising space—they are buying and that day will be a sorry one for some of the publishers, compilers and solicitors who are now raving after the dollars of the overworked automobile makers.

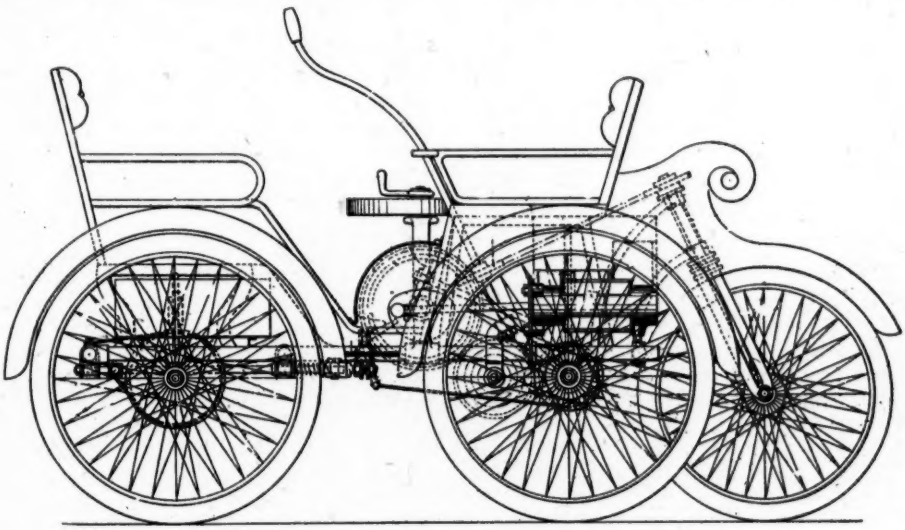
WHERE THEORY OR PROMISE PREVAILS

PROBLEMS WORKED OUT

TWO FRENCHMEN OBTAIN UNITED STATES PATENT FOR A MOTOR VEHICLE MOUNTED ON FIVE WHEELS AND INTENDED TO OBVIATE USUAL EFFECTS OF ROUGH, UNEVEN ROADS —MENTION OF OTHER RECENT PATENTS AND SCHEMES

FRENCH "PENTACYCLE" PATENTED

No. 647,878, to F. D. Bernier, Paris, and C. A. A. Mongredien, Levallois-Perret, France.—These two inventors aim at constantly level poise of the carriage body by providing means whereby the wheels may assume independent position in relation to the body when passing over rough uneven surfaces. In order to do this they have divided the under frame of the vehicle into a forward and rear part.



SIDE ELEVATION OF FRENCH "PENTACYCLE".

The front portion of the frame is mounted on three wheels, one of which, located on the longitudinal center of the machine acts as steering wheel. The other two wheels of the front frame are used for both driving and braking. The rear frame is supported by two wheels independent of the driving gear but arranged as brake wheels. The body has two seats, one over each frame and facing each other. The addition of the central steering wheel lends the vehicle the name chosen by its inventors: pentacycle.

Both the front and rear frames are composed of strong horizontal tubes suitably braced. The two parts are connected by a central joint having three axes of rotation, each one of which is perpendicular to the two others. This universal joint serves as a draft rod connection for the rear frame and allows the two sets of wheels and their respective frames to tilt independently of each other as occasion may arise through inequalities in the road. Two chains connect the adjacent ends of the side tubes of the respective frames so as to limit the angular movement of the two in their relation to each other and to prevent separation of the frames in case the draft rod should break.

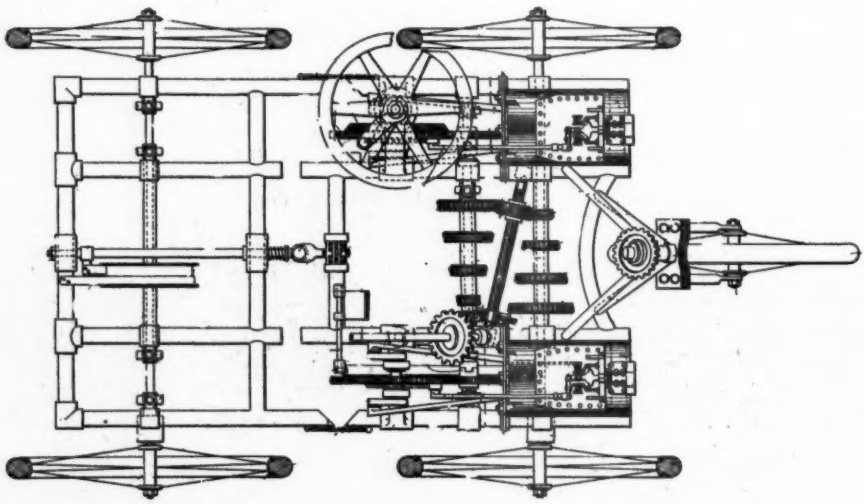
In the arrangement of the steering

wheel but little originality is displayed. It is mounted bicycle fashion in double front forks and its fork stem is connected to the steering handle in the body of the vehicle by means of a pair of sprockets and chain.

The motors are of the four pause petroleum type, being a pair of identical cylinders and equipments arranged one at each side of the front frame directly over the front axle. The method of communicating the driving power to the drive wheels through a change gear comprises what is doubtless the most highly original part of the machine, though its originality is far from being a guaranty of its effectiveness.

The motors drive short cross shafts on which are mounted spur gears engaging pinions on a transverse counter shaft from which the motion is transmitted direct to the driving wheel axle through the change gear. This gear comprises a double set of bevel gears arranged in opposites regarding their graded sizes respectively on the counter shaft and on the drive shaft. They are of such sizes that the oblique open space between the sets is equal in width at all points. Through this space runs a shaft on which is mounted an intermediate spur pinion which is adapted to engage any pair of two juxtaposed bevel gears. It is adapted to slide on the shaft but rotates with it on account of a connecting spline groove and pin. Above this shaft and parallel with it is another shaft having coarse screw threads which receive a nut hub from which depends a forked hanger straddling and guiding the intermediate pinion on the shaft below.

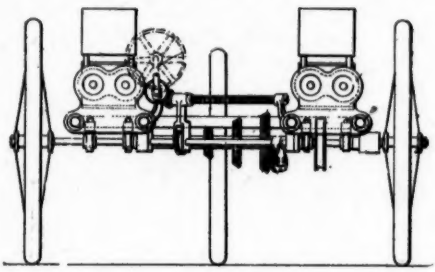
This upper threaded shaft may be rotated by the operator of the vehicle by means of a hand wheel connecting with a pair of bevel gears the second of which is mounted on the screw shaft. Thus in turning the screw shaft the operator may run the intermediate driving pinion along on its shaft to engage any set of gears considered proper for the speed desired. Transmission of power ceases each time the intermediate pinion is placed between two successive pairs of gears. It is doubtful that an intermediate spur gear may be made to mesh properly with two bevel gears. Two clutches permit of transmitting at any time the power of either or of both motors. The oblique shaft on which the change gear intermediate spur is mounted is supported at its end on ball bearings.



PLAN VIEW OF FRENCH "PENTACYCLE".

The wheels on the front and rear

frames, with the exception, of course, of the fifth steering wheel, are connected to their respective axles by means of ordinary bevel gear differentials in boxes adjacent to the wheels. Both front and rear wheel shafts are equipped with pulley and band brakes.



Transverse View of Front Frame.

LIGHT STORAGE BATTERY

A very light gas battery, the invention of M. Germain, a French telegraph inspector, has been suggested as a possible future rival of lead accumulators for automobiles, etc. The battery consists of an air-tight vessel enclosing pairs of carbon discs, each pair tightly compressing a layer of paper pulp. Electric current is obtained when the pulp is moistened with weak sulphuric acid, and oxygen and hydrogen respectively are led to alternate discs by pipes, the discs being suitably connected.

CARRYING THE MOTOR

No. 461,404, to William E. Pearson, Boston, Mass.—This invention is designed to provide means for the carrying of the motor in a suitable manner. Two claims are allowed, of which the first is as follows:

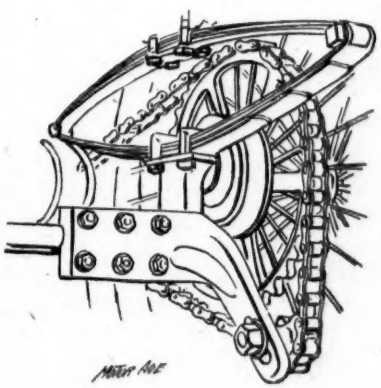
"In a motor carriage an actuating- motor supported on a frame detached from the body of the carriage; one end of said frame being attached to one axle of the carriage by a hinged joint; the other being attached to the swinging links suspended from one end of the body of the carriage substantially as and for the purpose set forth."

Unless the patent is designed to mislead, Mr. Pearson's ideas of what are needed are very hazy for the frame carrying motor is not hinged to the driven axle but to the front axle. It will be noted, however, that his claims do not say to which axle the frame need be hinged.

ENGLISH CHAIN ADJUSTER

The accompanying illustration shows an adjusting device for motor vehicle driving chains as applied to the purpose by an English automobile builder. It consists simply of an idler wheel similar in principle and arrangement to the idler used frequently on tandem bicycles. The advantage claimed for this kind of adjustment for motor vehicle chains is that when the vehicle is driven by two chains it allows the tension of each chain to be regulated independently. It is also pointed out that the counter shaft being mounted stationary, there is no danger of its misalignment through careless chain adjustment, as in those types of vehicles in which the chain slack is taken up by shifting the counter shaft in its mountings.

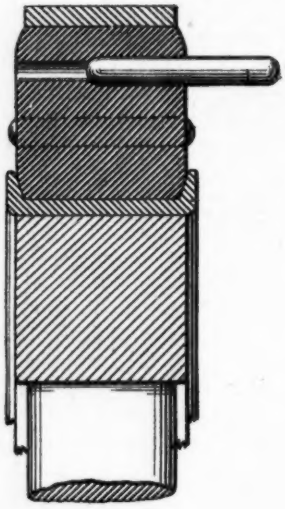
The manufacturer of this particular device makes the additional claim that he reduces the tendency of the chain to show a marked misfit on the sprocket teeth after having become worn and stretched. The position of the idler keeps the chain off the driven sprocket entirely, except for a sufficient distance on its periphery to insure proper driving engagement. In this manner the added inaccuracies of the chain links do not amount to as much in actual working engagement as though the chain hugged the



sprocket for a greater distance around the rim.

HUNT'S RUBBER TIRE

No. 641,315, to Charles W. Hunt, New York City.—The accompanying illustration shows a tire which has a rubber body held between a metal rim and a tire of



metal or any other wear-resisting materials. The rubber is expanded so as to hold the rim in place by inserting pins of vairous shapes into it. Two claims.

NEW COMPOUND COMBUSTION MOTOR

The accompanying views show the recently improved internal combustion motor designed by two prominent English gas engine builders, Crossley and Atkinson, of Manchester. The motor is of the compound or "two-stage" expansion type. There are three cylinders, A, B and C, two, B and C, being high-pressure ones, in which the charge is drawn in, compressed, ignited, and expanded in the ordinary Otto cycle, and the other, A, being the low-pressure cylinder, which is preferably placed between the two H.P. cylinders, and has its piston, D, connected in the ordinary manner to a crank pin, E, on the crank-shaft, F, common to all the cylinders. The H.P. cylinders, B and C, have their pistons connected to crank pins, G and H, in such a manner that they complete their inward and outward strokes together, but at an interval of 180 degrees from the crank pin, E, of

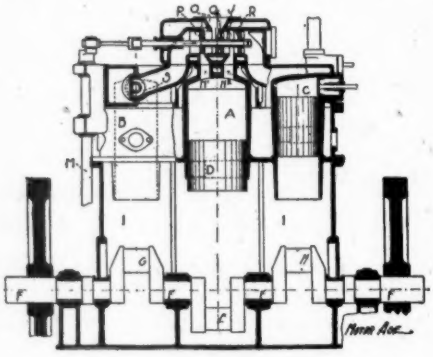


Figure 1.

the L.P. piston, D. That is to say, when the H.P. pistons are in their furthest "in" position, the L.P. piston, D, is in its furthest "out" position, as seen in Fig. 1. The L.P. cylinder is made about twice the area of the H.P. cylinders, and the mouths of all the cylinders open to an enclosed crank chamber, I. Owing to the position of the cranks and the areas of the pistons, the pressure on this enclosed crank chamber remains constant while the motor is running.

The low-pressure piston and connecting rod are made about the weight of the two high-pressure pistons and their connecting rods, so that by balancing the rotating parts the engine is suitable for running at a high rate of speed without

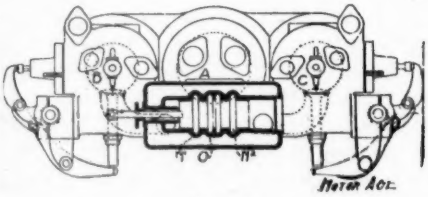


Figure 2.

causing any material vibration or requiring heavy supports.

The valves for the admission of gas and air and for the exhaust of the high-pressure cylinders are so arranged that working strokes are made alternately, thus providing for an impulse each revolution. After a working stroke in either high-pressure cylinder the exhaust takes

place into the low-pressure cylinder, and as these exhausts occur alternately from either high-pressure cylinder, power is given out by the low-pressure piston once every revolution, and between the working strokes in the high-pressure cylinders. Power is thus given out twice per revolution when ignitions are allowed to take place continuously in the high-pressure cylinders.

NEWS OF THE TRADE

REDUCTION OF CAPITAL

It has been officially announced that a meeting of the stockholders of the Illinois Electric Vehicle Transportation Co. of Chicago will be called in the near future, for the purpose of reducing the authorized capital stock of the company from $25,000,000 to $2,500,000. The reason for this reduction, as stated, is that the company has no necessity for a capital of $25,000,000, and that the reduction will make the stock much more attractive to local investors.

There has now been paid in one five-dollar installment on the shares. By calling for another such installment, the $2,500,000 would be entirely paid in. It is proposed, however, not to ask for the entire five dollars, but for smaller amounts, from one to two dollars a share, as the funds are needed.

ACTIVITY IN PHILADELPHIA

Philadelphia, Jan. 23.—Attention has been drawn to the activity and advance in General Electric Automobile stock in this market. Officers of the company say that it is practically ready to handle a large amount of business. It owns a large factory in this city, where the company manufactures its own storage batteries, its motors and all the parts that go to make an automobile. It also owns a rubber vulcanizing plant, which is in complete operation. It is stated that after careful tests Strawbridge & Clothier, proprietors of the large department stores, have purchased delivery wagons of the company and have also bought an electric truck, which they are now using. The company's officers state that they have made an arrangement with John Wannamaker, both at New York and Philadelphia, to act as the selling agent of the company. Within two weeks an exhibit of these vehicles will be made at Wannamaker's store.

SUPPLIES RUNNING GEARS

There is a fair demand for complete running gears for light wagons of the runabout type on which motors of any sort to suit individual builders may be fitted. Recognizing this demand, the Milwaukee Automobile Co. of Milwaukee has placed on the market the running gear which it uses on its own runabouts. This gear is of popular design and is already in use on several successful carriages of reputable manufacture.

The gear consists of a front and a rear truss securely tied together by distance tubes, which contain universal joints. The entire structure is built of one and one-quarter inch seamless tubing, strongly braced together, and has frame connections of steel of the best quality, riveted and brazed in place.

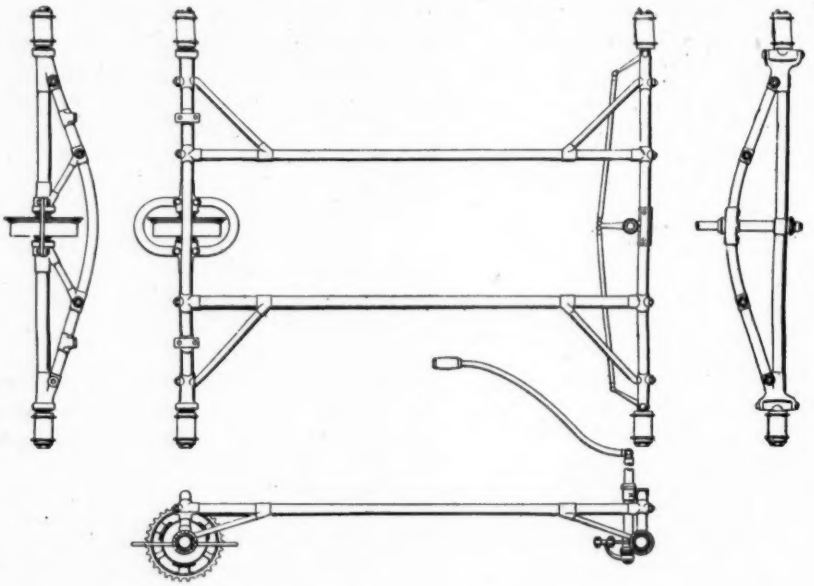
The front truss carries the front wheels and complete steering linkage. This apparatus enables a movement of sixty degrees to be given the front wheels, which controls the carriage with ease at any speed, and which will turn it completely around in a fifteen-foot circle.

The rear truss carries the driving mechanism and rear wheels. A compensating gear is provided in the middle of this truss to allow for unequal speeds of each rear wheel. The main driving sprocket (which also carries the brake shoe) has thirty teeth, one-inch pitch and five-sixteenths of an inch wide.

The bearings throughout are said to be

of tool steel hardened and ground to a finish. They have ball retainers and are dust proof.

This frame is four feet ten inches between the front and rear truss, and is designed for a four feet and two inches track, with equal sized wheels. Its construction gives great rigidity in combination with minimum weight. It is supplied complete, ready for enameling, as shown. It is then ready to have the wheels built up on the hubs and any carriage body with springs, motor, tanks, etc., fitted to it.



RUNNING GEAR FOR LIGHT AUTOMOBILE.

AUTOMOBILE MAIL COLLECTION

Washington, Jan. 27.—Acting under instructions from the Postoffice Department, the local postal officials have recently been conducting practical tests of collecting mail by automobiles and they have been entirely successful. The longest and hardest route in the city was selected for the test. The trip was made in thirty-two minutes, collections being made from twenty-seven letter boxes, three package boxes and two sub-stations. With a horse and cart it requires one hour and twenty minutes to collect the mail on this route.

It is agreed by the postoffice officials generally that if the scheme of mail collection by automobile is adopted it will result in a big saving of time, not only to the department, but to the public.

CHANGE OF ADDRESS

The Olds Gasoline Engine Works, formerly of Lansing, Mich., announces that hereafter its title and address will be the Olds Motor Works, Detroit. The establishment remains under the same management and the plant at Lansing will still be operated, though the general offices of the company will be at Detroit, where a new factory has just been completed, in which will be built the Olds gasoline engines for motor vehicles.

OVERDOSES OF CAPITALIZATION

Commenting upon the fact that so many newly organized automobile companies are incorporated with immense capitalization, the Farm Implement News rather flippantly remarks that the American Power Carriage Co., newly organized at Augusta, Me., is comparatively modest in its capitalization figures, having been

incorporated for only $1,000,000. The same paper stands sponsor for the figures that, were the aggregate capital of all of the automobile companies incorporated during the past year paid in and put to manufacturing use, there would be plenty of money and to spare to build a horseless carriage for every family in the world.

CHICAGO AUTOMOBILES LICENSED

The Chicago city council is preparing to amend a municipal code that the motor cabs, now being operated on the streets, may be brought under the same tax requirements, as horse drawn cabs, hacks, omnibuses and carettes. The council has already passed an ordinance providing for the licensing and examination of automobile operators. The present scheme is to tax the automobiles according to their seating capacities. Vehicles which have only two seats, beside the operator's box, will be taxed $2.50 a year, and those with four seats just twice that amount.

WANTS MOTOR OMNIBUS

E. J. House, of Painesville, O., wishes it stated that he is representing a syndicate which is in the market for a practical automobile omnibus. It may be run by electricity, steam or gasoline, the only requirement being that it operate efficiently. Correspondence with makers of such vehicles is desired.

GENERAL NEWS AND COMMENT

THE MATTER OF INDIVIDUALITY

What is one of the first impressions gained from a casual glance at the full page group of motor vehicles shown in this issue of Motor Age? Doubtless that it is a collection of carriages without tongues. The suggestion made occasionally that motor vehicles should possess more individuality as a distinct type of vehicle is not without weight.

In no motor wagon is the necessity felt for the dashboard and the forward position of the driver's seat that makes them imperative in the horse-drawn vehicle. Why, then, is the general design and appearance of the older type of vehicle copied so closely? Is it in order to break the news of new transportation to the public gently and not startle it with radical design or things which it is not used to seeing? Perhaps, and perhaps also because motor vehicle design is to be a simple matter of evolution starting from known and secure ground. The latter seems most plausible and most natural, for it follows the law of all mechanical progress. And yet one cannot forestall the thought that motor vehicles ought to look more like motor vehicles, no matter how they look, than to look like horse wagons with something left off. Taken in this light, the criticism that some of the new city cabs are ugly and odd in appearance falls as worthless.

He who seeks individuality for the new industry should praise rather than criticise new forms of construction, even though they seem ill-looking to him. And he who cares not whether the industry shall have peculiar and distinctive markings in the matter of vehicle design can at least find no harm in making a motor vehicle so that its effectiveness be the greatest, regardless of oddity in appearance.

Automobile design as well as automobile driving, gearing and steering, is bound to be a problem hard in the solving; that it will be solved in time is beyond doubt; that it will be brought to a point where all complaints against uncompleteness and commonplace appearance will cease to be urged is of necessity assured, in that the industry is one whose whole field and scope lies ahead, and where progress commercially depends almost entirely upon progress mechanically.

Those who object to dashboards over which hang no reins may some day see

their objection vanishing before the light of a new era of characteristic design. As for the present, criticism in this direction does not by itself point out the road toward better design. Changes that come will be the result of hard study and work and not merely the acceptation of a simple suggestion. If the present style of construction is succeeded by something else, that other style will be adopted because it is better and for no other reason.

COVER ILLUSTRATION

The automobile shown on the cover of this issue of Motor Age is the steam wagon manufactured by Foster & Co., of Rochester, N. Y. As stated in the previous issue of Motor Age, this vehicle is not put out by the company as an entirely original product, but as an adaptation and exemplification of what its builders consider the best standard methods of construction. The engine and boiler are very similar to those used on the Locomobile, though the boiler has a special burner constructed in a coil and arranged especially for quick starting. The method of starting consists in the insertion of a spoon filled with gasoline or kerosene, which produces in the coil a sufficient quantity of gas to start automatic generation before the liquid in the spoon is exhausted. The maximum speed of the regularly geared carriage is twenty miles per hour. The water tank has a capacity of twelve gallons. This company also builds other styles of steam vehicles, including delivery wagons, and has several models of electric motor vehicles.

EVIDENCE OF CHEAPNESS

A village resident in one of the English counties has communicated to a local journal an estimate of the relative cost of keeping an automobile and horse and carriage. He arrives at an economy in favor of the motor of $47.75 on the total expenses for the year, and he does it thuswise: The cost of the horse is $115, and of the dogcart $135; the interest on which outlay, at four and one-half per cent for one year, is $11.25; the keep of the horse, at $2.50 a week (it must be remembered that these prices are for keep in a country village), and license and shoeing, bring up the total expense for the year to $159. This he compares with a five horse-power automobile costing $850, the interest on which, at four and one-half per cent for the year, is $38.25. Adding to this a tax of $21 and expense of $52 for fuel (petrol in this case), at the rate of seventy-five cents for thirty-five miles, and twenty-five cents for the same distance for lubrication, he reaches a total annual expense of $111.25.

It will be noticed that in the above estimate there is no repairs account, an item which the average unskilled automobilist of the future will find to be, perhaps, the most serious of all, outside of fuel, comments the Scientific American. In this case, however, the automobilist was something of a mechanic, and was equal to making all ordinary repairs himself; moreover, he argues that in any case the accidents that may happen to a horse, and the more or less frequent visits of the veterinary, will fairly well offset repairs to the automobile.

THE REAL INVENTOR

The Automobile Club of France some months ago appointed a committee to ascertain who was the real inventor of the automobile. The committee now reports that M. Lenoir, who on January 24, 1860, took out a patent for a motor operated by the explosion of gas, is entitled to the honor. Lenoir, who is still alive and aged seventy-eight years, was discovered in an obscure village. The Automobile Club is now organizing a big fete in his honor and will present to him a handsome gold medal.

COOMB'S DREAM

While what Mr. Coombs dreams about may, and probably will be realized at some time in the future, still he will scarcely be the man to accomplish it, unless he changes his ideas very decidedly. His dream is outlined in the following from the Boston Journal:

Railroad palace cars are a familiar sight to the public, but a car of like proportions and something similar in appearance and design, that will speed along the country roads

from twenty to thirty-five miles an hour, is the latest creation of Yankee skill and Yankee ingenuity.

S. C. Coombs, of Philadelphia, is the inventor in that line of automobiles.

The car has a four-wheeled truck under each end set a short distance back from the ends, thereby bringing the weight of the car as near the engine as practicable in a car sixty-five feet long. The wheels are four feet high; each truck is constructed with heavy springs and fifth wheel, like a heavy circus wagon. Each wheel is fitted with the heaviest and best solid rubber tire that can be produced, which will relieve the wheel and axle from heavy jar when in rapid motion. The four-wheel truck at each end gives the car great stability, because if one wheel drops in a hole or crevasse the companion wheel on the same side will maintain the balance of the car and also distribute the weight over a larger surface on the ground, giving the car better foothold, as it were, on soft roads or climbing hills.

Mr. Coombs' manner of communicating power to the wheels from the motor is where his engineering qualities show themselves. The wheels all work independently of each other, the same as any automobile, yet they are all operated by means of two heavy cables direct from the one motor. The car has a steering arrangement at each end—both ends of the car are alike. The car runs either way, and around short curves and turns the rear trucks follow in the same track as the front wheels, and the car is guided either way by the one steering arrangement, the car having a pilot at each end. The car positively will not upset on any road.

There are two staterooms in the car, furnished with closets and baths. The bath tubs are let down in this space, and are even with the under side of the floor, a section of the floor being constructed to cover it. The butler's pantry is fitted with every modern culinary device. Some of the space of the car is divided off with partitions like folding blinds, making it possible to throw two or three rooms into one. The car is pointed at either end, to minimize atmospheric resistance. The car cannot upset, for it can be seen that all material and baggage carried is near the ground, like ballast in the bottom of a ship.

"I represented this undertaking to Roswell P. Flower twelve years ago," said Mr. Coombs, "while I resided at Watertown, but the idea was too advanced then."

CURRENT BREVITIES

Several daily and weekly papers in London are now using motor cars for distribution purposes.

A prominent hospital in New York city has put into operation an electric ambulance. In general appearance it does not differ materially from the ordinary horse drawn ambulance.

City Electrician Ellicott, of Chicago, has estimated the number of horseless vehicles in use in the United States to be over one thousand.

The German Press expresses the fear that American automobiles will invade that country and accordingly are asking for a higher rate of duty.

Germany has succeeded in being first to couple romance with the automobile industry in the way of a thoroughly up-to-date motor vehicle elopement.

The editor of the Samokat, a cycling paper published at St. Petersburg, Russia, recently made an overland journey from that city to Paris on a motor tricycle.

An electric vehicle company has been organized in Mexico by American capitalists. It is proposed to establish an automobile omnibus service in Mexico city.

Minister Wu, the Chinese representative at Washington, has followed the lead of several others of the diplomatic corps and purchased for his own use an automobile.

The driver and occupant of a Chicago electric hansom cab recently succeeded in capturing a runaway horse on one of the boulevards. It was a graphical illustration of the conquest of the automobile over the nag.

According to press reports the New York police officials have refused to grant a permit for operating an automobile to a cross-eyed woman. Such officials must have the safety and welfare of the public very strongly at heart.

A bill has been introduced on the New York State Legislature requiring all hacks, cabs and automobiles, licensed for hire, to be equipped with plainly visible cyclometers. The purpose of the bill is to prevent drivers from over-charging patrons.

The automobile "Hurry-up" wagon, now in use by the police department of Akron, O., is proving itself a success, according to newspaper reports and the assertions of police officials of other cities, who have examined the vehicle. The maximum speed of this patrol wagon is said to be twenty miles per hour, and,

while it originally cost the city $2,300, the belief is expressed that it will soon pay for itself in the matter of economy over the old styled patrol.

A man who recently had an ear bitten off by a horse is authority for the statement that automobilism is not spreading with all the rapidity that is desirable.

The gasoline motor driven automobile is perfectly adaptable to use in Australia as common .730 benzine is used all over the continent for various purposes and may be obtained anywhere.

A motor car congress is to be opened in Paris, July 9, in connection with the exposition, which will then be in progress. The proceedings will take place in the large hall of the Palais des Congres, and will last about a week.

A Chicago woman, Mrs. Kate Armitage, has brought suit against the Illinois Electric Vehicle Transportation Co., claiming $20,000 damages for injuries sustained in a collision January 17 between her carriage and one of the company's electric cabs. Suit has also been brought in a New York city court against the electric vehicle company there by a young woman, who was injured while jumping from a runaway cab. This accident occurred in 1898.

The accompanying side and rear views of a motor-bicycle show the application of the hydrocarbon engine manufactured by the Steffey Mfg. Co. of San Diego Cal. In writing the company says, "We believe we have the only small, light motor which can be enclosed in a thin case, as shown in the accompanying photograph, which gives a far neater appearance to our machine than any motor bicycle thus far brought out." The photograph of the bicycle certainly bears out the claim.

The Chicago alderman who recently introduced an ordinance to compel automobiles to be equipped with fenders, has offered an amendment to that ordinance, providing that all such vehicles shall carry conspicuous numbers to serve as identification in case of accidents, runaways, etc.

The military powers that be at Fort Sheridan, Ills., have posted a sign at the gateway of the fort grounds to the effect that automobiles are not allowed within. Just why these army officials are so afraid that the motor vehicle will disturb the peace and quiet of their barrack grounds is not evident.

Le Chasseur Francais points out, albeit rather late in the day, that the projected seventy-five million New Jersey corporation that was going to make automobiles for the United States and England, was destined to be slightly overcapitalized—if at all—on the grounds that a French corporation with a capital of two million francs was capable of turning out 400 vehicles per year and that the Jersey corporation, on that basis, should be able to place on the market no less than 30,000 vehicles every twelve months.

USERS OF MOTOR-VEHICLES

Are invited to contribute letters giving experiences of interest, trips, tours, etc. Questions concerning any feature of motor-vehicles will be carefully answered. Address, The Editor, The Motor Age, 324 Dearborn St., Chicago.